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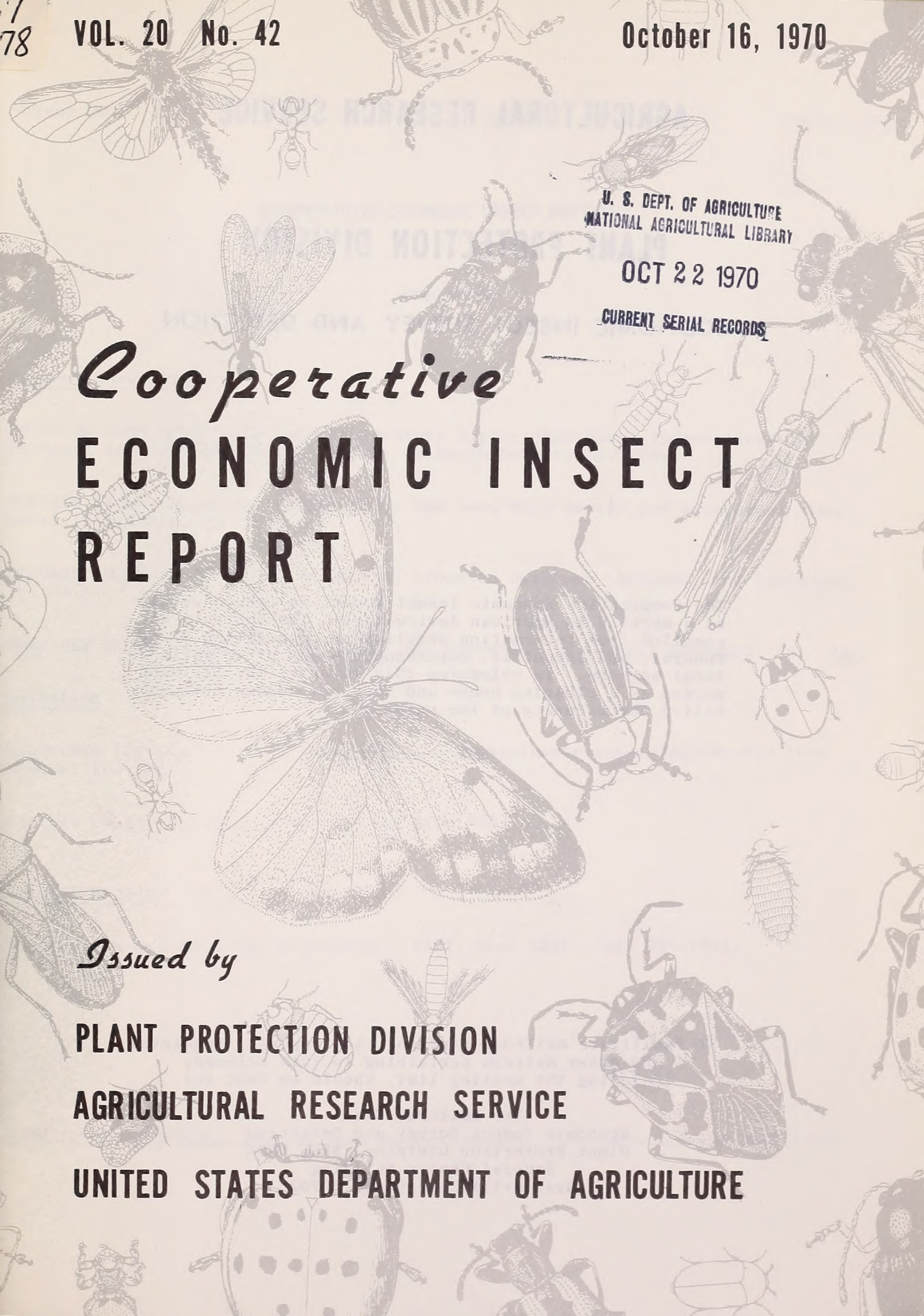

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PROTECTION DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PROTECTION DIVISION

ECONOMIC INSECT SURVEY AND DETECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 20 October 16, 1970 Number 42

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

EUROPEAN CORN BORER fall surveys indicate higher than usual infestations in Michigan and decrease in populations in North Dakota. (p. 719).

SORGHUM MIDGE damage to sorghum heads has been more severe and widespread than usual in Alabama. (p. 719).

CABBAGE LOOPER troublesome on several crops in Oklahoma, Arizona, and Tennessee. (p. 721).

HORN FLY heavy on cattle in Oklahoma and decreased in central Maryland. (p. 723).

Detection

New State records include a MOSQUITO from Pennsylvania and a TACHINA FLY from Oregon. (p. 723).

For new county and parish records see page 725.

Special Report

Survey Methods. Selected References - 1967. Part XXXI. (pp. 727-732).

Reports in this issue are for week ending October 9 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING OCTOBER 12

HIGHLIGHTS: An early winter storm spread subfreezing weather over the Rockies and nearby areas. Snow fell as far south as the Texas Panhandle. Generous rain fell ahead of the storm and along the frontal area.

PRECIPITATION: Only meager precipitation fell early in the week. This included light rain in Washington and northwestern Oregon and scattered showers in southern New Mexico, southwestern Texas, and southern Florida. A large storm developed Tuesday over the northern Great Plains. Warm moist air streamed northward ahead of the storm setting off showers and local thunderstorms from the upper Mississippi River Valley to eastern Texas. Snow fell in the cold arctic air behind the storm, driven by strong northerly winds. By 2 p.m. Wednesday the snow at Wheatland, Wyoming, had accumulated to 12 inches. Three to 7 inches covered other parts of Wyoming. By evening, snow up to 12 inches covered the Colorado Rockies and 5- to 7-inch depths were common over Wyoming and western Nebraska. The snow pushed southward and eastward. By midnight Wednesday, moderate snow was falling as far south as Clovis, New Mexico, and Dalhart, Texas. Thursday evening and Friday morning, snow reached measurable depths at Grand Island and Lincoln, Nebraska. This was the first time either of those localities has seen more than a few flakes of snow so early in the season. About midweek a tropical depression produced torrential rains in the Caribbean and caused flooding in parts of some of the islands. At dawn Friday, 16 rivers in Puerto Rico overflowed as the result of 25-33 inches of rain in 5 consecutive days. The flooding waters destroyed or damaged hundreds of houses and numerous bridges. Early Thursday morning, heavy local downpours of from over 5 inches to almost 12 inches in 6 hours caused flash floods in Oklahoma. As the weekend approached, light rains continued in the Pacific Northwest, snow fell from western Minnesota to eastern Kansas, bright sunny weather prevailed from California to western Texas and widespread thundershowers covered the large area from the Great Lakes to the Gulf of Mexico. These showers were especially heavy in southeastern Texas and southwestern Louisiana. Beaumont, Texas, received 11.50 inches of rain Sunday. Much of the Southwest received no rain or only widely scattered sprinkles. Weather of the week continued on page 724.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ASTER LEAFHOPPER (Macrosteles fascifrons) - OKLAHOMA - Very heavy on young oats in Payne County. (Okla. Coop. Sur.). WISCONSIN - Ranged from 1 per 20 sweeps to 15 per 10 sweeps of alfalfa in southwest area. (Wis. Ins. Sur.).

CORN EARWORM (Heliothis zea) - ARIZONA - Early instars averaged 80 per 100 corn silks in Yuma Valley field, Yuma County. (Ariz. Coop. Sur.). OKLAHOMA - Moderate on Stephens County alfalfa. (Okla. Coop. Sur.). ALABAMA - Larvae of this species and Celama sorghiella (sorghum webworm) heavy on several hundred acres of late grain sorghum heads in lower Baldwin County. (Wilson). H. zea larvae nearly destroyed all pods in 30-acre soybean field in Cleburne County. (Ventress).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Very light on wheat in Curry, Roosevelt, Quay, and Chaves Counties. (Mathews).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OREGON - Light in Malheur County week of October 2. (Goeden). ARIZONA - Counts of 800 per 100 sweeps in forage legume field in Yuma Valley, Yuma County. (Ariz. Coop. Sur.). NEBRASKA - Ranged 2-282 per 100 sweeps in 12 alfalfa fields in Dawson County. (Manglitz, Stevens). WISCONSIN - Dissections show about 50 percent oviparae, some males. Predators and parasites keeping numbers light in most alfalfa. (Wis. Ins. Sur.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - MICHIGAN - Few adults still in blacklight trap in Lenawee County. Fall survey underway and indications of higher than normal infestations noted. (Sauer, Oct. 5). IOWA - Caused up to 9 (averaged 3) ears per 100 row feet to drop in 9 fields in central area by October 7. (Iowa Ins. Sur.). NORTH DAKOTA - Fall survey shows decrease in populations in all 5 major grain corn producing counties in southeastern area. (Brandvik).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - KANSAS - Fall surveys completed. Average percent cornstalks infested (and girdled) by district as follows: Central 30 (12), south-central 34 (11), and southeast 23 (1.8). (Bell).

SORGHUM MIDGE (Contarinia sorghicola) - ARKANSAS - Very little insecticide applied and no insect losses to early sorghum. Pest caused light to total loss to some sorghum planted after June 1. (Boyer, Jones). ALABAMA - Damage to grain sorghum heads more widespread and severe than usual. Samples of grain heads from several counties show 10-100 percent of grain destroyed. (Carroll et al.).

SMALL GRAINS

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Early instars averaged 7 per square foot of small grain in scattered fields in Carter County. Heavy on small grain in Stephens County. Light on volunteer wheat in Ellis County. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

FALL ARMYWORM (Spodoptera frugiperda) - ALABAMA - Larval infestations reoccurring in scattered lawns and sports fields in Chilton and Henry Counties. (Futral et al.). Larvae damaging fall grazing areas of 1 to 2-acre fields of wheat and crimson clover in Cleburne County. (Ventress).

A MARCH FLY (Dilophus orbatus) - CALIFORNIA - Counts of 250 per square yard on dichondra lawns at Rialto, San Bernardino County, at Berkeley, Alameda County, and at Richmond, Contra Costa County. Many homeowners concerned about mass populations of flies entering premises. Unusually abundant this fall. (Cal. Coop. Rpt.).

A SCARAB (Phyllophaga anxia) - SOUTH DAKOTA - Larval controls applied to 60 acres of Black Hills National Forest rangeland in September. (PPD).

FORAGE LEGUMES

NOCTUID MOTHS - IDAHO - *Prodenia praefica* (western yellow-striped armyworm) larval feeding heavy in 160 acres of alfalfa at Grandview, Elmore County; prohibited livestock grazing. (Hemerway, Edwards, Oct. 1). CALIFORNIA - *Spodoptera exigua* (beet armyworm) larvae 8 per sweep of alfalfa at Woodland, Yolo County. (Cal. Coop. Rpt.). ARIZONA - *Autographa californica* (alfalfa looper) larvae per 100 sweeps of alfalfa averaged 10 on Yuma Mesa and 20 in Yuma Valley. (Ariz. Coop. Sur.). OKLAHOMA - *S. frugiperda* (fall armyworm) heavy on Harmon and Stephens County alfalfa. *Plathypena scabra* (green cloverworm) heavy on Stephens County alfalfa. (Okla. Coop. Sur.).

ALFALFA CATERPILLAR (*Colias eurytheme*) - ARIZONA - Larvae averaged 10 per 100 sweeps of alfalfa at Yuma Valley and Yuma Mesa, Yuma County. (Ariz. Coop. Sur.). NEW MEXICO - Adults generally light to medium, larvae up to 6 per 25 sweeps, on alfalfa in Chaves, Eddy, and Dona Ana Counties. (N.M. Coop. Rpt.).

ALFALFA WEEVIL (*Hypera postica*) - UTAH - Recovered 2 adults from maple leaf mold (Berlese funnel) in Logan Green Canyon, Cache County, 2 miles from nearest alfalfa field. (Knowlton). NEBRASKA - One adult and one larva in 12 Dawson County fields; 100 sweeps per field. (Manglitz, Stevens).

PEA APHID (*Acyrthosiphon pisum*) - NEW MEXICO - Generally light on alfalfa in Chaves and Dona Ana Counties. (Mathews, Campbell). NEBRASKA - Ranged 2-109 per 100 sweeps in 12 Dawson County alfalfa fields. (Manglitz, Stevens). WISCONSIN - Dissections show about 50 percent oviparae. Predators and parasites controlling populations in most alfalfa. (Wis. Ins. Sur.).

SOYBEANS

VELVETBEAN CATERPILLAR (*Anticarsia gemmatalis*) - ALABAMA - Early instars heavy on late soybeans in large planting in Wilcox County. Controls applied. Controls also applied in Covington County. (Martin et al.). MISSISSIPPI - Larval averages per 2 row feet as follows: 1.5 in 5 Oktibbeha County fields, 1 in Jefferson Davis County field, and 1 in 2 Leake County fields. (Sartor).

SOYBEAN LOOPER (*Pseudoplusia includens*) - MISSISSIPPI - Larvae averaged 1 per 2 row feet in 5 Oktibbeha County fields. (Sartor).

GREEN STINK BUG (*Acrosternum hilare*) - MISSISSIPPI - Adults and nymphs averaged 2 per 2 row feet in 5 Oktibbeha County fields. (Sartor).

COTTON

BOLL WEEVIL (*Anthonomus grandis*) - ALABAMA - Older and diapaused weevils continue to enter hibernation statewide. Young adults emerging in heavy numbers in all fields where suitable squares and bolls present. Some egg laying continues. (Williams). MISSISSIPPI - Adults averaged 1,218 per acre in 4 untreated fields in Jefferson Davis County. (Sartor).

COTTON LEAFWORM (*Alabama argillacea*) - ARKANSAS - Very heavy, larvae 20+ per row foot on cotton in Clay County. Infestation not economic. Infestations rare. (Boyer, Jones).

POTATOES, TOMATOES, PEPPERS

GREENHOUSE WHITEFLY (*Trialeurodes vaporariorum*) - COLORADO - Caused severe wilting of tomato plants in greenhouse at Canon City, Fremont County. Controls used. (Hantsbarger).

BEANS AND PEAS

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Light to moderate damage to 70 acres of commercial snap beans in Tulsa County. Controls ineffective. (Okla. Coop. Sur.).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - TENNESSEE - Damaged commercial greens on Cumberland Ridge and in eastern area. (Mullett).

GENERAL VEGETABLES

CABBAGE LOOPER (Trichoplusia ni) - NEW MEXICO - Larvae decreased on lettuce in Dona Ana County. Adults decreased with cooler temperatures. (N.M. Coop. Rpt.). ARIZONA - Major pest in complex including Spodoptera exigua (beet armyworm) and Prodenia ornithogalli (yellow-striped armyworm) in several lettuce fields at Yuma, Yuma County. (Ariz. Coop. Sur.).

BROWN GARDEN SNAIL (Helix aspersa) - OREGON - Becoming increasingly abundant at Empire, Coos County. (Keir).

DECIDUOUS FRUITS AND NUTS

APPLE MAGGOT (Rhagoletis pomonella) - RHODE ISLAND - Caused much damage in poorly protected apple orchard in Providence County. (Field).

PEAR PSYLLA (Psylla pyricola) - RHODE ISLAND - Damaged pears in Providence County. (Field).

FALL WEBWORM (Hyphantria cunea) - ALABAMA - Larvae heavy on pecan trees in west-central area. Heavy in Dallas and Montgomery Counties. (Miller et al.).

WALNUT CATERPILLAR (Datana integerrima) - OKLAHOMA - Still heavy on pecans in scattered areas of Payne County. Three different instars present. (Okla. Coop. Sur.).

TWIG GIRDLER (Oncideres cingulata) - WEST VIRGINIA - Damage moderate to heavy on hickory and English walnut in southern Wayne and Cabell Counties September 24. (Lilly).

APHIDS - ALABAMA - Myzocallis caryaefoliae (black pecan aphid), Monellia spp., and mites still defoliating pecan trees in major pecan belt. (McQueen et al.). ARIZONA - Monellia costalis (black-margined aphid) heavy in pecan grove in residential area of Yuma, Yuma County. Honeydew a nuisance. (Ariz. Coop. Sur.).

CITRUS

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Nursery treated to protect new growth at Yuma, Yuma County. (Ariz. Coop. Sur.).

SMALL FRUITS

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - ARIZONA - Heavy in grape vineyards at Litchfield, Maricopa County. (Ariz. Coop. Sur.).

GRAPE LEAF FOLDER (Desmia funeralis) - CALIFORNIA - Larvae of this pest and Platynota stultana (a leaf roller moth) medium on grapevines at Clovis, Fresno County. (Cal. Coop. Rpt.).

ORNAMENTALS

HOLLYHOCK WEEVIL (*Apion longirostre*) - MISSOURI - Collected during 1970 in Jasper, Lawrence, Stone, and Christian Counties by J.E. Francka. These are new county records. (Munson).

A JAPANESE WEEVIL (*Pseudocneorhinus bifasciatus*) - SOUTH CAROLINA - Collected in Barnwell and Richand Counties for new county records. (Nettles, Oct. 7).

BAGWORM (*Thyridopteryx ephemeraeformis*) - ALABAMA - Occurrence and damage throughout State on shrubs and trees more widespread than in most years. Pupated throughout north area. Mating completed. Egg cases filled with eggs for overwintering. (Kauskolekas et al.).

EUONYMUS SCALE (*Unaspis euonymi*) - NEW MEXICO - Heavy on euonymus at Albuquerque, Bernalillo County. (N.M. Coop. Rpt.).

BROWN GARDEN SNAIL (*Helix aspersa*) - LOUISIANA - Adults collected from roses in nursery at Metairie, Jefferson Parish, by Harris and Mayeux July 30, 1969. Determined by W.J. Byas. This is a new parish record. (PPD).

FOREST AND SHADE TREES

NANTUCKET PINE TIP MOTH (*Rhyacionia frustrana*) - MISSOURI - Adults reared from larvae and pupae collected in Lincoln, Warren, St. Charles, Dallas, Barton, Jasper, and Vernon Counties. These are new county records. (Kearby).

WHITE-PINE WEEVIL (*Pissodes strobi*) - MASSACHUSETTS - Larvae severely damaged spruce terminals in Hampden County. (Jensen, Oct. 2).

ROUNDHEADED PINE BEETLE (*Dendroctonus adjunctus*) - NEVADA - Fall flight underway in Spring Mountains, Clark County. (Long).

RED-HEADED PINE SAWFLY (*Neodiprion lecontei*) - WEST VIRGINIA - Larvae defoliated 80-90 percent of 2 Virginia pines in Marion County by October 1. Larvae defoliated 10 percent of 5 acres of Virginia pine in Putnam County. (Miller). TENNESSEE - Heavy on few isolated pines at Nashville, Davidson County. (Bogard).

EASTERN SPRUCE GALL APHID (*Adelges abietis*) - MASSACHUSETTS - Very severe on white spruce in Hampden County. (Jensen, Oct. 2).

OAK SKELETONIZER (*Bucculatrix ainsliella*) - MASSACHUSETTS - More severe statewide than in many years. (Garland).

VARIABLE OAK LEAF CATERPILLAR (*Heterocampa manteo*) - OKLAHOMA - Moderately defoliated oak at Rattan, Pushmataha County. On ornamental oaks in southern Tulsa County and at Shawnee, Pottawatomie County. (Okla. Coop. Sur.).

ELM SPANWORM (*Ennomos subsignarius*) - CONNECTICUT - Egg counts of 1,000-1,500 per tree not uncommon at Wolcott, New Haven County, and Bristol, Hartford County. (Doane).

TWIG GIRDLER (*Oncideres cingulata*) - OKLAHOMA - Very heavy on shade trees in Washita County. Heavy damage on elms and on birch tree in Payne County. (Okla. Coop. Sur.).

BOXELDER BUG (*Leptocoris trivittatus*) - OKLAHOMA - Heavy on goldenrain-trees in Mayes County. (Okla. Coop. Sur.).

MAN AND ANIMALS

SCREW-WORM (*Cochliomyia hominivorax*) - One case reported in U.S. October 4-10 in Luna County, NEW MEXICO. Total of 178 laboratory-confirmed cases reported in portion of Barrier Zone in Republic of Mexico as follows: Sonora 80, Chihuahua 91, Coahuila 1, Nuevo Leon 3, Tamaulipas 3. Total of 46 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent establishment of self-sustaining population in U.S. Sterile screw-worm flies released: Texas 36,698,000; New Mexico 6,620,000; Arizona 6,620,000; Mexico 87,660,000. (Anim. Health Div.).

A MOSQUITO (*Culex tarsalis*) - PENNSYLVANIA - Larva collected from pool in drainage ditchbed near Marsh Run, New Cumberland Army Depot, Cumberland County. Collected by C.G. Briet September 2, 1970. Determined by F.C. Thompson; confirmed by A. Stone. This is a new State record. (First Army Med. Lab., Ent. Div.).

HORN FLY (*Haematobia irritans*) - OKLAHOMA - Averaged 1,000 per head of cattle checked in Major County. Heavy in Mayes and Marshall Counties. (Okla. Coop. Sur.). MARYLAND - Decreased quickly in central counties. Ranged 10-30 per head in most heavily infested herds in Frederick, Montgomery, and Carroll Counties. (U. Md., Ent. Dept.).

STABLE FLY (*Stomoxys calcitrans*) - MARYLAND - Adults annoying along waterfront in Wicomico, Worcester, and Somerset Counties. (U. Md., Ent. Dept.).

BROWN RECLUSE SPIDER (*Loxosceles reclusa*) - TENNESSEE - Specimens collected in Perry County for a new county record. (Gordon).

STORED PRODUCTS

INDIAN-MEAL MOTH (*Plodia interpunctella*) - OKLAHOMA - Heavy in farm-stored pelleted cow feed in Payne County. (Okla. Coop. Sur.).

BENEFICIAL INSECTS

A FLOWER BUG (*Orius tristicolor*) - UTAH - Heavy on blossoms of rubber rabbitbrush heavily infested with *Frankliniella occidentalis* (western flower thrips) in Cache and Box Elder Counties. (Knowlton).

A TACHINA FLY (*Erynniopsis rondanii*) - OREGON - Adults collected from elm harboring large population of *Pyrrhalta luteola* (elm leaf beetle) at Medford, Jackson County, week of August 6. Flies abundant on litter around tree bases. Mating on lower leaves in sunlight. One adult just emerged from elm leaf beetle pupa. This parasite introduced into 10 States; known to be established only in California. Medford collection represents new record of establishment or spread from California. Identified by C.W. Sabrosky. (Berry et al.).

HYMENOPTEROUS PARASITES - COLORADO - *Lysiphlebus testaceipes* (a braconid), *Pachyneuron siphonophorae* and *Asaphes lucens* (pteromalid wasps), and *Charips* sp. (a cynipid wasp) reduced greenbug numbers by 90-95 percent last of August to first of September in Arkansas Valley. Determined by P.M. Marsh and B.D. Burks. (Burchett).

HONEY BEE (*Apis mellifera*) - TENNESSEE - Short of winter stores due to light honey flow this spring and lack of moisture this fall. Early spring feeding in 1971 necessary to prevent starvation. Very little brood present October 7. Many colonies of mostly old bees will not survive winter. Increase of American foulbrood expected. (Little).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

EUROPEAN CRANE FLY (Tipula paludosa) - WASHINGTON - Many males in light trap at Mt. Vernon, Skagit County, September 1-14. (Eide).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - About 15,000 sterile flies released each week at San Ysidro, San Diego County. Release began September 23 after recovery of 13 native flies since July 7. Will attempt to coincide weekly releases with those on Mexico side of border. (PPD).

GRASSHOPPERS - ARIZONA - Extensive feeding injury in 3 older citrus groves in Salt River Valley, Maricopa County. (Ariz. Coop. Sur.).

ORIENTAL FRUIT FLY (Dacus dorsalis) - CALIFORNIA - Single fly taken October 12 in Garden Grove, Orange County. This catch is 3 miles east of location where third fly was taken in Garden Grove September 18. Since September 4, a total of 7 flies has been trapped in adjacent Orange and Los Angeles Counties. (PPD).

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Two fourth instars collected from separate cotton bolls in 40-acre field at Bakersfield, Kern County, October 5. (Cal. Coop. Rpt.). This is same field where first native moths trapped this year. State personnel to apply controls 2 or 3 times to this field and those within 1-mile radius. Cotton will be harvested about November 1. All trash from this and surrounding fields will be processed to recover larvae. Released 5,716,545 sterile moths October 2-8 at Bakersfield; total to date 64,889,185. ARIZONA - Released 67,500 sterile moths at Redington, Pima County, during same period; total to date 1,484,800. First moths sterilized at reduced dosage of 15 kilorad released at Redington. Boll infestation in 500-boll sample taken at this location was 6.6 percent; infestation 19 percent previous week. Four native and six sterile moths trapped for respective totals of 43 and 241. (PPD). Late-planted cotton, formerly 15-20 percent infested, now 100 percent infested at Safford, Graham County. (Ariz. Coop. Sur.). NEW MEXICO - Infested up to 32 percent of bolls in 1-2 fields in southern Eddy County and up to 50 percent in 2 fields in southern Dona Ana County. (N.M. Coop. Rpt.).

Weather of the week continued from page 718.

TEMPERATURE: High pressure, sunny skies, and pleasant temperatures prevailed over most of the Nation early in the week. Late Monday a storm strengthened over the northern Great Plains. Warm moist air streamed northward ahead of the storm. Cold arctic air plunged southward behind the storm. Freezing temperatures occurred in spots in the central Appalachians Tuesday morning, October 5, when Elkins, West Virginia, registered 31°. Subfrezzing temperatures spread through the Rocky Mountains, the Grat Basin, and the western portions of the Great Plains. Sharp temperature drops occurred as the cold air replaced warmer weather. Billings, Montana, registered 81° Tuesday afternoon but only 39° on Wednesday. The maximum temperatures at Miles City, Montana, on Wednesday and Thursday were 86° and 39°, respectively. More than a dozen States saw subfreezing weather Thursday morning with minimums ranging from a few degrees below zero in parts of Wyoming to 26° at Flagstaff, Arizona, and 27° at Grants, New Mexico. Laramie, Wyoming, registered 7° below zero. Strong winds reaching 50 m.p.h., raised clouds of dust in parts of Arizona and New Mexico. In general, the western and central portions of the Nation cooled during the week, becoming especially cold on Saturday when maximums over the northern and central Rocky Mountains and northern and central Great Plains were mostly in the 30's and 40's. Most of this area averaged 6-16° below normal and 15-20° colder than the previous week. The East warmed sharply. Portions of the Northeast averaged 3-9° above normal and 5-10° warmer than the previous week. (Summary supplied by Environmental Data Service, ESSA.)

HAWAII INSECT REPORT

General Vegetables - POTATO TUBERWORM (*Phthorimaea operculella*) feeding moderate on 15 percent of leaves on 60 eggplants; as many as 8 (averaged 3) larvae in 1 affected leaf at Pearl City, Oahu. Mines of LEAF MINER FLIES (*Liriomyza* spp.) light in 0.25 acre of seequa (*Luffa acutangula*) and in 0.1 acre of yardlongbeans, at Pearl City; adults trace. All stages of CARMINE SPIDER MITE (*Tetranychus cinnabarinus*) light to moderate in 0.5 acre of eggplant at Pearl City; adults and nymphs averaged 25 per square inch of lower leaf surface. BEAN FLY (*Melanagromyza phaseoli*) larvae heavy on petiole of yard planting of snap beans at Makawao, Maui; parasites nil. Larvae moderate on petioles of small planting of long beans at Pearl City; adults trace. (Kawamura).

Fruits and Nuts - COCONUT SCALE (*Aspidiotus destructor*) colonies light to moderate on about 20 percent of leaves on all banana plants in 1 acre at Waimanalo, Oahu. Colonies moderate on 10 percent of leaves in small planting at Pearl City. Nymphs and adults of *Telsimia nitida* (a lady beetle), adults of *Lindorus lophanthae* (a lady beetle), and *Aphytis* sp. (a eulophid wasp) among scale colonies at Pearl City. (Kawamura). COCONUT LEAF ROLLER (*Hedylepta blackburni*) damage moderate to 30 percent of fronds of 50+ coconut trees at Kahului, Maui. (Miyahira).

Man and Animals - VEXANS MOSQUITO (*Aedes vexans nocturnus*) numbered 166 and SOUTHERN HOUSE MOSQUITO (*Culex pipiens quinquefasciatus*) 1,736 in 57 light traps on Oahu during September. *Aedes* up to 102 at Punaluu. *Culex* up to 284 at Waialua. (Mosq. Contr. Br., Dept. of Health).

Miscellaneous Pests - Destroyed 322 GIANT AFRICAN SNAIL (*Achatina fulica*) specimens during September at Poipu, Kaui; none observed at Wahiawa. Poison baits continue. (Sugawa). CLUSTER FLY (*Pollenia rudis*) still building up at Kahua Ranch in North Kohala, Hawaii. Many clustering in pavilion below main ranch house. (Yoshioka).

DETECTION

New State Records - A MOSQUITO (*Culex tarsalis*) PENNSYLVANIA - Cumberland County (p. 723). A TACHINA FLY (*Erynniopsis rondanii*) OREGON - Jackson County (p. 723).

New County and Parish Records - BROWN GARDEN SNAIL (*Helix aspersa*) LOUISIANA - Jefferson (p. 722). BROWN RECLUSE SPIDER (*Loxosceles reclusa*) TENNESSEE - Perry (p. 723). HOLLYHOCK WEEVIL (*Apion longirostre*) MISSOURI - Christian, Jasper, Lawrence, Stone (p. 722). A JAPANESE WEEVIL (*Pseudocneorhinus bifasciatus*) SOUTH CAROLINA - Barnwell, Richland (p. 722). NANTUCKET PINE TIP MOTH (*Rhyacionia frustrana*) MISSOURI - Barton, Dallas, Jasper, Lincoln, St. Charles, Vernon, Warren (p. 722).

CORRECTIONS

CEIR 20(34):601, 610, 613 - AN ERIOPHYID MITE (Setoptus jonesi) - PENNSYLVANIA - ... This is a new State record. Should read AN ERIOPHYID MITE (Setoptus *strobacus*) ... delete This is a new State record. (Simons).

CEIR 20(41):713 - ... Octobius megnini (ear tick) OREGON ... should be *Otobius* megnini (ear tick) OREGON ...

LIGHT TRAP COLLECTIONS

	Tempera-ture °F.	Precip-itation (inches)	Type of trap BL = blacklight I = incandescent MV = mercury vapor O = other	*Agrotis ipsilon* (black cutworm)	*Carpocapsa pomonella* (codling moth)	*Chorizagrotis auxiliaris* (army cutworm)	*Estigmene acrea* (salt-marsh caterpillar)	*Faronta diffusa* (wheat head armyworm)	*Feltia subterranea* (granulate cutworm)	*Heliothis virescens* (tobacco budworm)	*H. zea* (bollworm, corn earworm, tomato fruitworm)	*Loxostege commixtalis* (alfalfa webworm)	*Loxostege similalis* (garden webworm)	*Loxostege sticticalis* (beet webworm)	*Manduca quinquemaculata* (tomato hornworm)	*Manduca sexta* (tobacco hornworm)	*Ostrinia nubilalis* (European corn borer)	*Peridroma saucia* (variegated cutworm)	*Prodenia ornithogalli* (yellow-striped armyworm)	*Pseudaletia unipuncta* (armyworm)	*Spodoptera exigua* (beet armyworm)	*Spodoptera frugiperda* (fall armyworm)	*Trichoplusia ni* (cabbage looper)	Crops
FLORIDA																								
Gainesville 9/30-10/8			BL	15			1		10	3	13							2	4	39	31	139		
MISSISSIPPI																								
Stoneville 10/2-8	50-89	0.06	2BL	150					396	86	4865					1			372	160	1798	244	299	
MISSOURI (County)																								
Greene 10/1-7			BL	2							114								6	7				
NEBRASKA																								
Lincoln 10/9				5							5						2		4	1		4		
NEW HAMPSHIRE																								
Lee 10/8			BL															2		4		4		
TENNESSEE (County)																								
Haywood 10/2-9			BL	21							101						143			43		5	39	
Hardeman 10/2-9			BL	147						1	61						32		19	34		6	135	
Madison 10/2-9			BL	10							105						38		9	19		40	65	
Shelby 10/2-9			BL	4							31						18		12	9		3	31	
Tipton 10/2-9			BL	5						2	143						48		12	20		2	84	
TEXAS																								
Waco 10/2-8			BL	5					106	14	318							30	82	109	166	33	57	
VIRGINIA																								
Charlotte Court House 9/21-10/4			BL	94						5	334					1	12		34	184		181		
Holland 9/23-10/6			BL	9							349				4	3	7		12	41		54		
Petersburg 9/21-10/2			BL								708				17	1								
Warsaw 9/23-10/5			BL	29							132				2				4	89		7		
WISCONSIN																								
Hancock 9/28-10/5			BL	40							5						2	5		3		7		
Madison 10/2-9			BL	11							12						1	4		3		7		
Mazomanie 10/1-6			BL	1							14									1		3		
Platteville 10/1-6			BL	1							11									4		3		

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Additional Selected References 1967

Part XXXI

Additional copies of Parts I through XXXI of this bibliography are available from Economic Insect Survey and Detection.

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